Biospheric Sciences Branch Highlights
Code 614.4
January - February 2006

- **Science policy meetings, Science team meetings, Workshops**

** Dr. Betsy Middleton, as the NASA agency representative, participated in the 3-day semi-annual meeting of the Federal Geographical Data Committee's Vegetation Subcommittee (Jan. 24-26, 2006), hosted by the Ecological Society of America at their HQ in Washington, DC. This committee is developing a revision of the published 1997 National Vegetation Classification Standard (NVCS), the mandatory federal standard for vegetation classification to use in reporting vegetation inventory and related information.

** Dr. Marc Imhoff participated in a National Academies of Science workshop on the Contributions of Remote Sensing for Decisions about Human Welfare (January 30-31, 2006). The workshop focused on opportunities and challenges in implementing the use of land remote sensing to support decisions in human health and food security. Topics included: (1) opportunities and challenges of applying remote sensing data and technology to human health and food security questions, (2) how remote sensing can contribute to effective monitoring and forecasting of infectious disease, human health, and food security issues, (3) how land use and land coverage change seen through remote sensing, in combination with other types of data, can be effectively used to support decisions about human health and food security, and (4) identify the key issues of data availability and integration facing users when applying remote sensing to human health and food security applications. Results of the workshop will be incorporated in a NRC report on the specific subject area and will contribute to the NAS Decadal Survey.

** Jon Ranson attended a one day retreat Feb. 9 with the Instrument Systems and Technology Division (Code 550) and the Science and Exploration Directorate (Code 600). The object of the meeting was to define ways in which science and engineering could work together better.

** Jon Ranson traveled to Vienna, Austria Feb. 20-24 to attend the 1st Northern Eurasian Earth Science Partnership Initiative (NEESPI) Science Team meeting.

** Jon Ranson (614.4) attended the 2nd Road to Mission Success workshop on Feb. 14 and 15.

- Significant activities

** Assaf Anyamba was invited to be part of an interview panel for a post-doc candidate at the USDA-Center for Medical, Agricultural & Veterinary Entomology (USDA/CMAVE) in Gainesville, Florida (January 25-29). The position will be to create a digital database of the distribution of mosquito populations in the US together with associated climate data sets including rainfall and vegetation index measurements. Dr. Kenneth Linthicum, the Director of the Center who had invited Assaf, would like to see the development of research collaboration with GSFC. Assaf had fruitful follow-up discussions with him. In the next couple of months Anyamba is going to investigate the possibilities of drafting a Specific Cooperative Agreement (SCA) for research.

** Landsat Legacy Project continues in Code 614.4

Landsat Legacy Interviews / Landsat Oral History Video Taping

-- A second Landsat oral history video taping occurred on January 12th under the auspices of the Land Cover Satellite Project Science Office (LPSO). The three people interviewed by Darrel Williams, John Barker, Bill Stoney, Sam Goward, Terry Arvidson and Laura Rocchio were:

Stan Weiland (1961-1975): Nimbus and ERTS Project Manager
Stan Freden (1970-1979): Project Scientist for ERT-1, -2 and –3
Gill Branchflower (1964-1983): TIROS, ERTS and TDRSS manager

Information that surfaced included:
1) sensors were the rate-determining factors on missions
2) the ERTS-1 mission was initiated as part of an unsolicited proposal by GE; TRW unexpectedly lost the mission because GE had existing hardware
3) total time from contract meeting at GE to launch was less than 2.5 years including accidental destruction of the Nimbus bus in centrifuge testing
4) the prime analog RBV instrument on ERTS-1 failed and was never turned on again
5) a backup engineering model permitted ID and correction for RBV on ERTS-2
6) the digital MSS instrument worked beyond all expectations
7) ERTS funded over 300 scientific investigations, including international ones that led to formation of foreign receiving stations
8) the primary goal of the ERTS I-III missions was to obtain a single cloud-free image of the land area of the Earth

-- A third oral history video taping occurred on February 23, 2006 at GSFC.

-- Burton B. "Doc" Schardt
NASA HDQTs Nimbus Project Manager (1968-
NASA HDQTs ERTS Project Manager (1970-

-- Lou Gonzales
OGO Ground System Manager
ERTS-1,2 Ground System Manager
ERTS-3 Deputy Project Manager
Landsat-D Deputy Project Manager
Landsat-5 Project Manager
Landsat-7 Consultant

-- John Boeckel
Bill Nordberg's Assistant for Operations

** Landsat update

John Barker wrote up the glossary of Landsat calibration metadata terms.

- Published Papers

** Masek, J. G., and G. J. Collatz (2006), Estimating forest carbon fluxes in a disturbed southeastern landscape: Integration of remote sensing, forest inventory, and biogeochemical modeling, J. Geophys. Res., 111, G01006, doi:10.1029/2005JG000062.

** Masek, J.G., E.F. Vermote, N. Saleous, R. Wolfe, F.G. Hall, F. Huemmrich, F. Gao, J. Kutler, and T.K. Lim, A Landsat surface reflectance data set for North America, 1990-2000, Geoscience and Remote Sensing Letters, 3, 68-72, 2006.

** Brown de Colstoun, E. C. and C. L. Walthall (2006), Improving Global Scale Land Cover Classifications with Multi-Directional POLDER Data and a Decision Tree Classifier, Remote Sensing of Environment, 100(4): 474-485.

** Corp, L.A., E.M. Middleton, J.E. McMurtrey, P.K.E. Campbell, and L.M. Butcher (2006). Fluorescence sensing techniques for vegetation assessment, Applied Optics 45(5): 1023-1033.